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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,904	07/10/2003	Yuko Adachi	0649-0899P	9543

2292 7590 01/16/2004

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EXAMINER	
ERDEM, FAZLI	

ART UNIT	PAPER NUMBER
2826	

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/615,904	ADACHI ET AL.	
	Examiner	Art Unit	
	Fazli Erdem	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1 and 4-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (6,635,911) in view of Nishi (5,286,988) further in view of Yano et al. (4,740,824).

Regarding Claims 1 and 4-8, Maruyama discloses a solid state image sensing device and method of making same where the device includes a sensor portion, a vertical transfer register having a transfer electrode, a shunt interconnection of a refractory metal and a light shielding film. The shunt interconnection and the light shielding film are insulated from one another with an oxide film, an insulating film to serve as a stopper film. Maruyama fails to disclose the required channel stopper and the required voltage configuration. However, Nishi discloses a charge coupled device image sensor where the required channel stopper structure is disclosed. Furthermore, Yano et al. disclose a solid-state image sensor where the required voltage configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required channel stopper and the voltage configuration in Maruyama as taught by Nishi and Yano et al respectively in order to have a semiconductor image device with higher performance.

2. Claims 2 and 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (6,635,911) in view of Nishi (5,286,988) further in view of Yano et al. (4,740,824) further in view of Narui et al. (US 2001/0054723).

Regarding Claims 2 and 3 Maruyama discloses a solid state image sensing device and method of making same where the device includes a sensor portion, a vertical transfer register having a transfer electrode, a shunt interconnection of a refractory metal and a light shielding film. The shunt interconnection and the light shielding film are insulated from one another with an oxide film, an insulating film to serve as a stopper film. Maruyama fails to disclose the required channel stopper, the required voltage configuration and the required positive/negative voltage structure. However, Nishi discloses a charge coupled device image sensor where the required channel stopper structure is disclosed. Furthermore, Yano et al. disclose a solid-state image sensor where the required voltage configuration is disclosed. Finally, Narui et al. disclose an image sensor, method of fabricating the same and exposure apparatus, measuring device, alignment device, and aberration measuring device using the image sensor where the required positive/negative voltage structure is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required channel stopper, the voltage configuration, and the positive/negative voltage structure in Maruyama as taught by Nishi, Yano et al, and Narui et al. respectively in order to have a semiconductor image device with higher performance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Starting February 4, 2004, Examiner Fazli Erdem's phone number will be changed to (571) 272-1914 and his SPE Nathan Flynn's phone number will be changed to (571) 272-1915

FE
January 12, 2004